

WHAT IS CLAIMED IS:

1 1. 1. An integrated circuit chip comprising:
2 a substrate, the substrates comprising a plurality of chip structures;
3 a plurality of bonding pads disposed on the substrate, each of the bonding pads
4 being formed from an aluminum bearing material;
5 a surface region formed on each of the bonding pads;
6 an under bump metal layer overlying the surface region;
7 a wetting layer formed overlying the surface region, the wetting layer
8 comprising a plurality of protrusions extending out of the wetting layer and disposed spatially
9 on the wetting layer;
10 a bump layer overlying the wetting layer and mechanically coupling the
11 plurality of protrusions.

1 2. The chip of claim 1 wherein the under bump metal comprises an
2 adhesive material, a wetting material, and a protective material.

1 3. The chip of claim 1 wherein each of the protrusions has a
2 predetermined height and a predetermined width.

1 4. The chip of claim 1 wherein each of the protrusions has a
2 predetermined height, the height ranging from about 15 to about 20 microns.

1 5. The chip of claim 1 wherein each of the bonding pads has a dimension
2 of about 80 microns by about 80 microns.

1 6. The chip of claim 1 wherein the wetting layer is provided by a
2 deposition or plating process.

1 7. The chip of claim 1 wherein the plurality of protrusions prevents a
2 possibility of the bump layer from peeling from the surface region of the bonding pad.

1 8. The chip of claim 1 wherein the plurality of protrusions prevents a
2 possibility of the bump layer from peeling from the surface region during a reflow process.

1 9. The chip of claim 1 wherein the substrate comprises silicon.

1 10. The chip of claim 1 wherein the substrate is a silicon on insulator
2 wafer.

1 11. A method for fabricating an integrated circuit chip comprising:
2 providing a substrate;
3 forming a plurality of bonding pads overlying the substrate, each of the
4 bonding pads being formed from an aluminum bearing material and including a surface
5 region;
6 forming an under bump metal layer overlying the surface region;
7 forming a wetting layer overlying the under bump metal layer, the wetting
8 layer comprising a plurality of protrusions extending out of the wetting layer and disposed
9 spatially on the wetting layer; and
10 forming a bump layer overlying the wetting layer and mechanically coupling
11 to the plurality of protrusions.

1 12. The method of claim 11 wherein the under bump metrology comprises
2 an adhesive material, a wetting material, and a protective material.

1 13. The method of claim 11 wherein each of the protrusions has a
2 predetermined height and a predetermined width.

1 14. The method of claim 11 wherein each of the protrusions has a
2 predetermined height, the height ranging from about 15 to about 20 microns.

1 15. The method of claim 11 wherein each of the bonding pads has a
2 dimension of about 80 microns by about 80 microns.

1 16. The method of claim 11 wherein the wetting layer is provided by a
2 deposition or plating process.

1 17. The method of claim 11 wherein the plurality of protrusions prevents a
2 possibility of the bump layer from peeling from the surface region of the bonding pad.

1 18. The method of claim 11 further comprising reflowing the bump layer
2 while maintaining the bump layer on the surface region through the plurality of protrusions.

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